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ophy. In other words, while they have not historically sprung from a common root, and while the milder and older phases of the tendency do not logically imply the newer and more extreme phases, the former *are* more or less clearly implied by the latter. The book would have been clearer and more instructive if the author had from the first made it evident that the principal root of his own anti-rationalism was the combination of temporalism and radical evolutionism—and had noted that it is only from the point of view of his own philosophy, and not in themselves, that the numerous tendencies which he mentions constitute a doctrinal unity. In the absence of an understanding of these points, the reader is likely to be left with a rather confused and congested sort of conception of both "rationalism" and its opposite, and with some errors of historical perspective not at all intended by the author. Dr. Goldstein's *Zusammenbruch des Rationalismus* is a name for too many and too various doctrines—or, at all events, for too many that are not themselves new, but merely capable of combination with certain significantly new doctrines. And since these last are scarcely set forth until the end of the book, the key to the inner logic of the author's exposition is concealed from the reader, and—one can hardly help surmising—to some extent from the author himself.

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Some Neglected Factors in Evolution: An Essay in Constructive Biology. HENRY M. BERNARD. Edited by MATILDA BERNARD. New York: G. P. Putnam's Sons. 1911. Pp. xvi + 489.

A book, rather interesting from the point of view of the speculative philosopher, but utterly fantastic in so far as it claims to be scientific, is Henry M. Bernard's "Some Neglected Factors in Evolution."

Mr. Bernard starts with a hypothesis of the universal presence in living organisms of a protomitomic network consisting of so-called chromatin bodies from which radiate delicate linin filaments. The chromatin bodies function chemically, their influence being distributed along the linin threads. Growth and extension of this simple chromidial network is carried on by the dividing of the chromatin, together with the splitting of the growing threads. Waste matter, resulting from chemical reactions, is carried along the filaments to the surface of the organism. The tips of the filaments are sensitive, and impulses from outside may travel inward as a nerve current.

Increase in size of an organism of this kind necessitates differentiations. Concentration of the powers of reaction and response gradually takes place. This means a closer clustering of chromidia where the stimuli are the strongest, with rearrangements of the filaments into strands for stronger and more coordinate contractions. Theoretically, such an organism should be spherical with all its chromatin collected in the center. The centers of energy would then be at the spot where all the paths of all the nerve stimuli from the surface cross each other. The primitive chromidial network thus becomes transformed into a new organism, the cell. All this reasoning is purely hypothetical, and Mr. Bernard's "Studies on the Retina," published in 1901–03, have, so far, convinced no one as to the reality of a protomitomic network.

The metazoan body, according to Mr. Bernard, consists of a multitude of chromidial centers connected with each other by myriads of filaments. Gastraeal organisms arise from a rounded protomitomic individual which became impitted to form a digestive cavity. The cavity thus produced became lined with a compact layer of nuclear nodes, forming a digestive epithelium.

How tissues and organs may be formed out of the chromatin linin network is described in Chapters IX.–XII. The scheme described denotes peculiar imagination and considerable ingenuity. It is unfortunate, however, that highly diagrammatic figures are shown purporting to be true to nature. The description of nuclear division according to the diagrams in Fig. 39 is grotesque.

Part II. deals with the "Cosmic Rhythm" which Herbert Spencer had already recognized as traceable in the phenomena of life. During long epochs species have arisen, culminated, and dwindled away. Life on this earth has not progressed uniformly, but in immense undulations. In this, Mr. Bernard catches a glimpse of an evolutionary truth "wider than any as yet apprehended." Considered in the light of this law, the evolution of organic life breaks up into a series of periods, each advancing according to a fixed formula. A great many forms are evolved on the plan of each unit of structure. Those which became modified for any special environment acquire stability at the cost of progress, but those which remain free to react efficiently to any environment at any time may yield new organisms of a type higher than their own. The production of new types of organisms is due to that special method of colony formation in which the combining organisms or "units" fuse together in such a way as to give rise to a new and more complicated organism.

Mr. Bernard traces five structural units in nature, the chromidial, the cell, the gastraeal, the annelidan, and, lastly, the unit culminating in man. In man, the nervous system is most highly specialized, the finer senses are so coordinated as to give a coherent report of the environment. A wealth of new forces appear comprised under the term psychic, *e. g.*, the thirst for knowledge, the love of the beautiful, etc. "The human unit, therefore, has to attain a condition of stable equilibrium, not only with an external, material environment, but with a psychical environment."

In the outburst of the "mind of man," in the fifth period, the psychic was "brought to the surface and externalized for the purpose of building up social aggregates." In modern society we find vast amalgamations gradually learning to live, side by side, without continual conflict. Old distinctions, necessary to the existence of the human organism only at the earlier stage of its integration, still persist. Like vestigial organs, however, they must in time disappear. Any real advance to a condition of stable equilibrium seems impossible until harmony is established between the component units of the organism. The politics of the present and the history of the past give evidence of only blind and unsuccessful attempts to produce efficient and harmonious aggregates. Expressions of human sympathy and help have been considered graces, not duties. We are functional components of a new social organism. Only by the free development of all the units can a human society escape the fate which organisms of past periods brought upon themselves through the stiffness of their skeletons and the consequent withdrawal of large numbers of their units from sensitive contact with the environment. The organic rhythm is nearing the end of its fifth great period. Just as it appears to be repeating the law of unit formation, it vanishes entirely. May we not believe that it rises out of sight in order to start a new period on a higher level of life?

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Free Will and Human Responsibility. HERMAN HARRELL HORNE. New York: The Macmillan Co. 1912. Pp. xvi + 197.

If one is tempted to consider the freedom of the will an outgrown question left behind us with scholasticism and Jonathan Edwards, the publication of two books on the subject by American thinkers (Professor Palmer and Professor Horne) within three months of each other should give one a greater respect for this time-honored problem. Nor will the perusal of Professor Horne's presentation of the subject be likely to make one feel that the question is any nearer being settled than it was on that mournful day when Buridano's ass starved quietly to death in the midst of assinine dainties. That one should feel thus on concluding the book is, perhaps, the more surprising inasmuch as the author does not pose as a dispassionate judge, but frankly holds a brief for the cause of freedom. To say this, however, does not mean that he treats determinism in an unfair manner. He states the case without prejudice and puts the arguments on both sides as strongly as he can.

The plan of the book is simple. After an introductory chapter, the history of the dispute is traced from the earliest times to the present. Then comes a presentation of the arguments of determinism, followed by the libertarian's rebuttal, and these are then reinforced by a chapter of positive arguments in favor of freedom. With this the discussion really ends, though further chapters are given us on "Pragmatism and Freedom" and "The Difference it Makes."

The historical sketch of so large an issue is naturally superficial. This of course was inevitable and is quite excusable. But the author might have given a clearer notion than he does of the relative importance of the question in pagan and in Christian philosophy. Moreover, the attempt is made to put the history of the conflict in such a light as to be itself an argument in favor of freedom, by showing that the general tendency has been toward it and away from determinism,—a conclusion arrived at by omitting any mention of the great reinforcement which determinism has received from the modern views of nature since the time of Galileo.